

# Corona (Covid-19) Forecast - No Lockdown Scenario

Australia

2020-05-21

For more details on the forecast assumptions click [here](#).

# Methodology

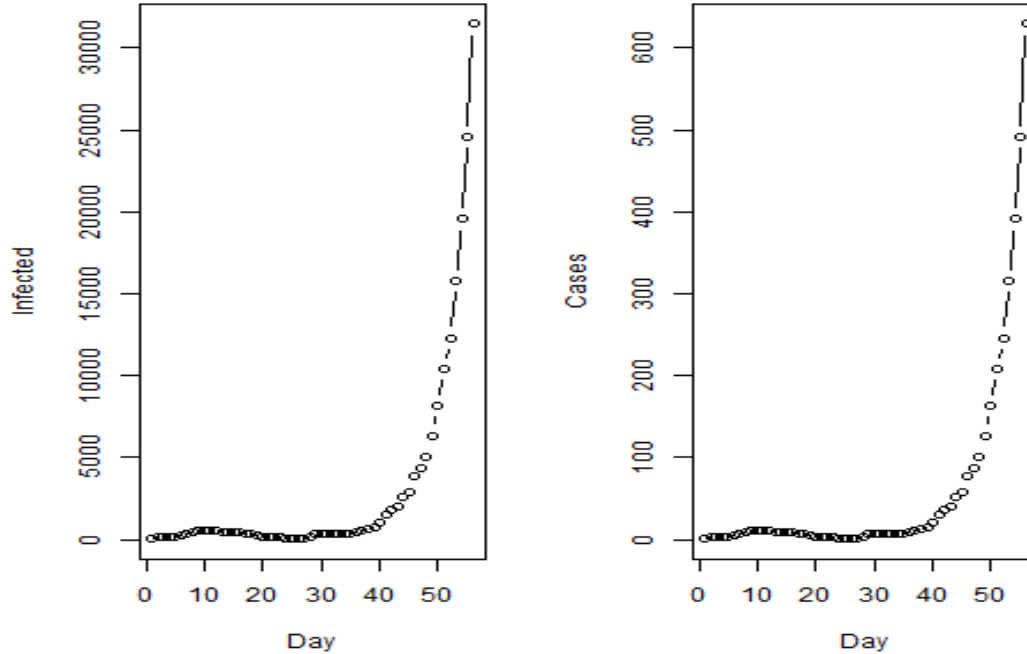
- The SIR epidemiological model is used to forecast active infections and cases. Forecast horizon is 365 days, counted from the date of the first case recorded in country.
- Only pre-lockdown data is used during model fit in order to forecast without the influence of a lockdown – the last 2 days prior to lockdown also being excluded.
- Automated pre-processing is conducted to estimate infections (and those in the infectious window) from official case data – this is informed by available sero survey data.
- Infection Fatality Rates (IFR) and Case Fatality Rates (CFR) are estimated from the latest data automatically – the denominator is adjusted for lag.

# Assumptions

- High end fatality scenario: infection to case ratio of 12.5 to 1. Assumes: 50% symptomatic, of which 16% present as cases – meaning 8% of total infections present as cases (12.5 to 1).
- Low end fatality scenario: infection to case ratio of 50 to 1. Assumes: 50% symptomatic, of which 4% present as cases – meaning 2% of total infections present as cases (50 to 1).
- WARNING: Early sero-survey data used to estimate infections - however studies thus far have suffered from sampling and test kit issues. Sero-survey data may not be relevant to your country.
- The first case occurred on 25/01/2020 and lockdown occurred on 23/03/2020, 58 days later.
- For more details on the forecast assumptions click [here](#).

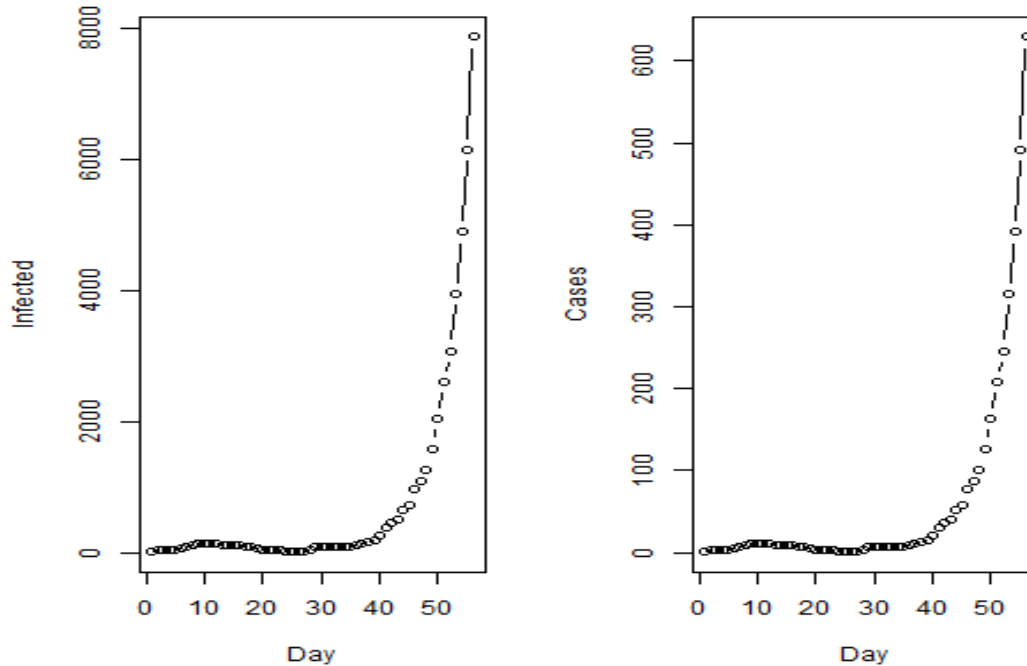
# Past infections and reported cases (low end fatality)

Past infections and reported cases (lower scenario)



# Past infections and reported cases (high end fatality)

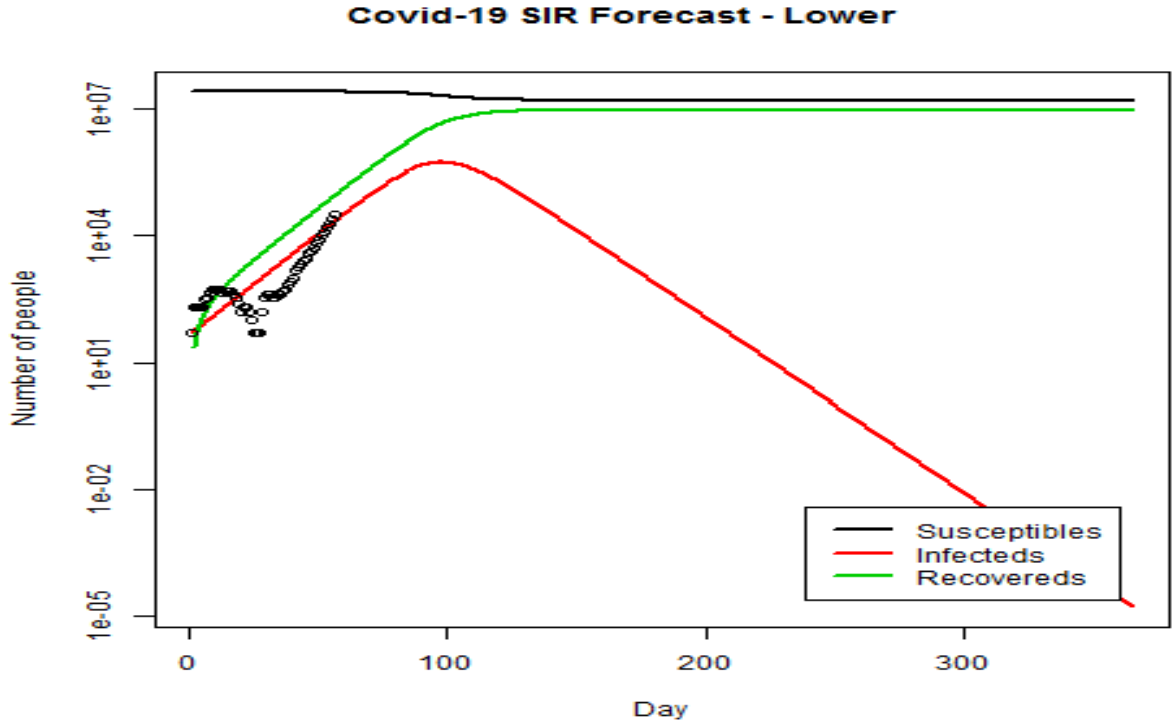
Past infections and reported cases (upper scenario)



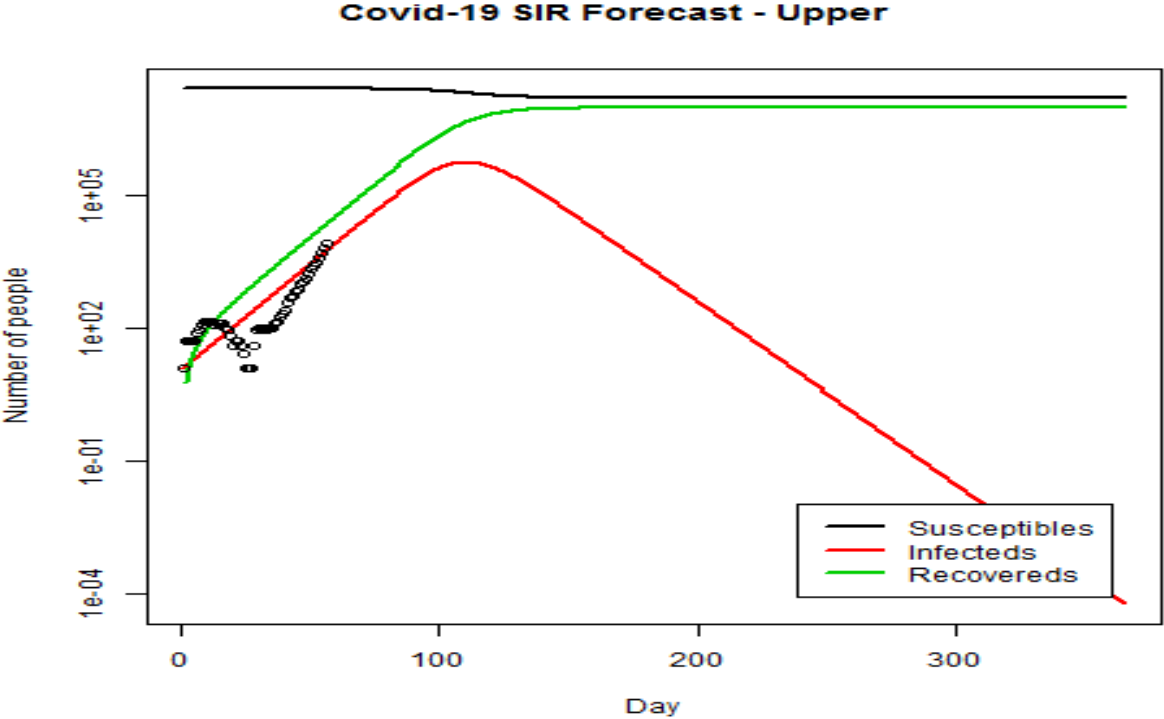
## Forecast - 365 days\*

Descriptors	Lower	Upper
Total cases	41,831	167,064
Single worst day (new cases peak)	1,077	4,293
Total infections	2,091,542	2,088,300
Total fatalities	608	2,430
IFR %	0.029	0.12
CFR %	1.5	1.5
Reproduction number	1.3	1.2
Infectious window	10	10
Fit period	56	56
IC	50	12.5
Beta	0.56	0.56
Gamma	0.44	0.44

# Corona Forecast - 365 day - Lower Boundary (Log Scale)



# Corona Forecast - 365 day - Upper Boundary (Log Scale)





# Forecast – New Daily Case Milestones - Upper Boundary

Milestone	New
30th Day	3
60th Day	70
90th Day	1,566
120th Day	3,430
150th Day	344

# Forecasts by country

To see forecast slide decks for other countries, click [here](#).

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